

Hand Finishing

OCT 09 2015

OCT 09 2015

OCT 09 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Friday, June 19, 2015 2:43:57 PM

133850

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 6/29/15 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 7/03/15 **Req'd Qty:** 4.00 ***1***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 QC7-Inspect Chemical Conversion Coat 0.00

130 **4x** **DAS 24** **OCT 13 2015**

QC	Memo	0.00
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Quality Control

140	0.00
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140 Small Fab Memo 0.09 4/ DAS 43 9-89 OCT 15 2015

Small Fab

Small Fab

Memo	0.09
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1- Transfer drill Rivet holes as per dwg D3562.

2-Touch-up rivet holes with alodine as per dwg d3562

3-Rivet legs using Scotch-Weld as per dwg D3562.

*****Ensure to wipe off any exess magnobond *****

A/R Scotch-Weld DP460

Batch: 4131562
EXP DATE: DEC 2016

DQA: _____ Date: _____



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Work Order ID 133850

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Item ID: D3562-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Step Weldment
Start Date: 6/29/15 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 7/03/15 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC5- Inspect part completeness to step on W/O	0.00				4			
180									
QC	Memo	0.00							DAS 24 9-89
Quality Control									
190	Chemical Conversion Coat per QSI005 4.1	0.00							
190									
HandFinish	Memo	0.02							
Hand Finishing									
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat	Memo	0.01							
Powder Coating	START TIME: 11:20 OVEN TEMPERATURE: 320 FINISH TIME: 11:50								4 15-10-16 11:20 320 11:50 DAS 34 9-89

DQA: _____ Date: _____



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OTHER : ☐																					

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1.338.50

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Item ID:	D3562-041	Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:						
Item Name:	Step Weldment				Stop	*NS2*
Start Date:	6/29/15	Start Qty: 4.00	*4*	Cust Item ID:		
Required Date:	7/03/15	Req'd Qty: 4.00	*4*	Customer:		
Reference:						

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run** **Start** ***NR1***
 QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Work Order ID 133850

133850

Page 6

Friday, June 19, 2015 2:43:58 PM

Item ID: D3562-041 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Step Weldment
Start Date: 6/29/15 Start Qty: 4.00 *4* Cust Item ID:
Required Date: 7/03/15 Req'd Qty: 4.00 *4* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC21- Final Inspection - Work Order Release	0.00							
240									
QC	Memo	0.01							
Quality Control									

ML3 OCT 2 2015

SH 20151023

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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OTHER :																																																																				

Friday, June 19, 2015 2:44:20 PM

133850

D3562-041

Required Date: 7/03/15

Required Qty: 4.00

Comments: IPP Rev:A New Issue 06-11-09 JLM
 IPP rev B ECN 987 07.10.09 EC verified by: DD
 IPP Rev:C ECN1048 07-12-18 DD verified by:ec
 IPP Rev:D 08-07-28 add chemical conversion coat DD verf:EC IPP REV:E
 13.06.03 PER DWG REV.F DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2622-120C		Manufactured	No			100	Each	97.9200	1	4			
D2622-120C									**			DAS 43 9-89	OCT 13 2015
Step Extrusion													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA003		97.92							
					125381	3.92							
					130161	94							
D2734		Manufactured	No			140	Each	73.0000	2	8			
D2734									**			DAS 43 9-89	OCT 13 2015
Step End Plate													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA003		73							
					130983	53							
					133142	20							
D3560-041		Manufactured	No			140	Each	2.0000	1	4			
D3560-041									**			DAS 43 9-89	OCT 13 2015
Arm Weldment													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA003		2							
					124288	2							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Picklist Print

Friday, June 19, 2015 2:44:20 PM

Page 2

Work Order ID: 133850

133850

Parent Item: D3562-041

D3562-041

Parent Item Name: Step Weldment

Start Date: 6/29/15

Required Date: 7/03/15

Start Qty: 4.00

Required Qty: 4.00

D3560-043

Manufactured No

140

Each

2.0000

1

4

DAS

43

9-89

OCT 13 2015

✓ ***D3560-043***

Arm Weldment

**

Location

Loc Qty

Loc Code

WA003

2

127365

2

B127365 → 2x
B133911 → 2x

MS20600-AD4W5

Purchased

No

160

Each

246.0000

32

128

DAS

43

9-89

OCT 13 2015

✓ ***MS20600-AD4W5***

Blind Rivet

**

Location

Loc Qty

Loc Code

CCK004

200

m131618

200

ST308

46

m129820

19

m131340

27

4132640 → 128x

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

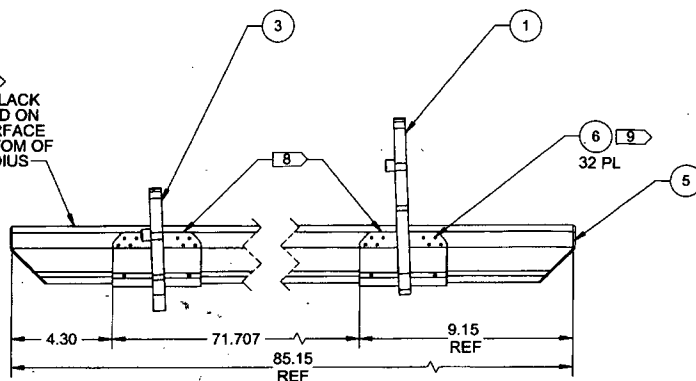


QA Closed: _____ Date: _____

Work Order update only ☐

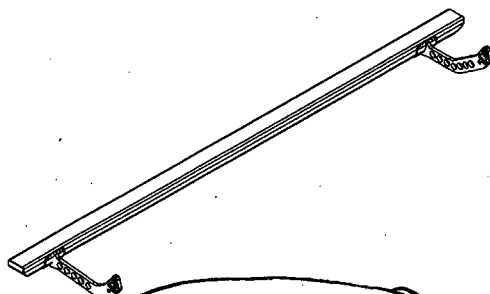
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER : _____			

2
APPLY BLACK
ANTI-SKID ON
TOP SURFACE
TO BOTTOM OF
TOP RADIUS



MEASURED BEFORE END CAPS WELDED IN PLACE

FWD



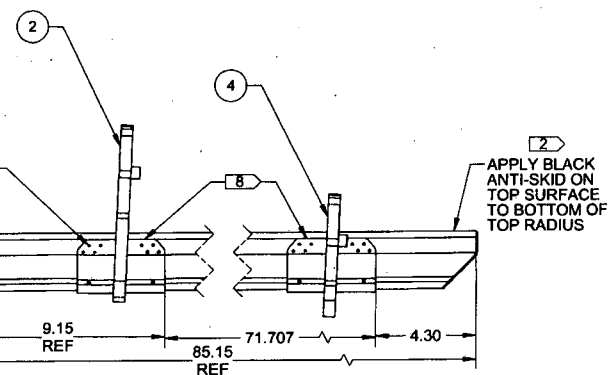
D3562-041 LH STEP ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH:
 - i) POWDER COAT ASSEMBLY GLOSS WHITE (4.3.5.1) OR GREY SANDETEX (4.3.5.6) OR BLACK SANDETEX (4.3.5.7) OR GREEN SANDETEX (4.3.5.8) PER DART QSI 005 4.4
 - ii) BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 8.79 lbs
- 8) INSTALL ARM WELDMENTS WITH A LAYER OF SCOTCH-WELD DP460 BETWEEN THE ARM WELDMENT AND STEP EXTRUSION. FILL ANY TOOLING HOLES WITH SCOTCH-WELD DP460. CLEAN OFF EXCESS BEFORE POWDER COATING.
- 9) TRANSFER DRILL #30 DEBURR & TOUCH UP HOLES WITH CHEMICAL CONVERSION COAT BEFORE RIVETING

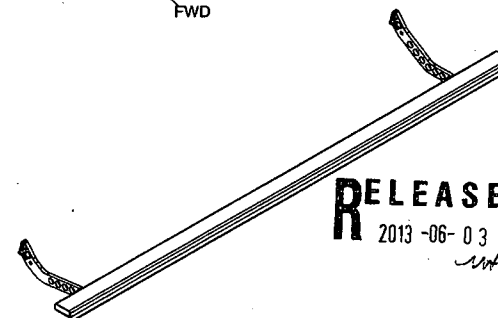
ITEM No.	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D3562-041	LH STEP ASSEMBLY
		X	D3562-042	RH STEP ASSEMBLY
1	1		D3580-041	ARM WELDMENT
2		1	D3580-042	ARM WELDMENT
3	1		D3580-043	ARM WELDMENT
4		1	D3580-044	ARM WELDMENT
5	1		D3562-1	STEP ASSEMBLY
6	32	32	MS20600AD4W5	RIVET

H-B-6-P
133850



MEASURED BEFORE END CAPS WELDED IN PLACE

FWD



D3562-042 RH STEP ASSEMBLY

F	REVISED NOTE 8 TO REMOVE MAGNOBOND, REPLACE WITH SCOTCH-WELD DP460, REF. PAR12-224. ADDED NOTE 9 AND SHEET 2	DW	13.05.15
E	ADD QTY(2) TO D2734 END PLATE ON D3562-042	PH	08.01.11
D	REMOVE D2808 SPACER NOTE; REDRAW IN SOLIDWORKS	DC	07.11.16
C	NOW MAGNOBOND, ADD D2808, REMOVE 4 RIVETS	CP	07.06.19
B	ARMS NOW RIVETED TO STEP	CP	07.01.15
A	NEW ISSUE	CP	06.09.26
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	DW		
CHECKED	SP		
MFG. APPR.	SP		
APPROVED	SP		
DE APPR.	SP		
DATE	13.05.15		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3562
TITLE STEP ASSEMBLY
REV. F
SHEET 1 OF 2
SCALE NTS

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8 7 6 5 4 3 2 1

D

C

B

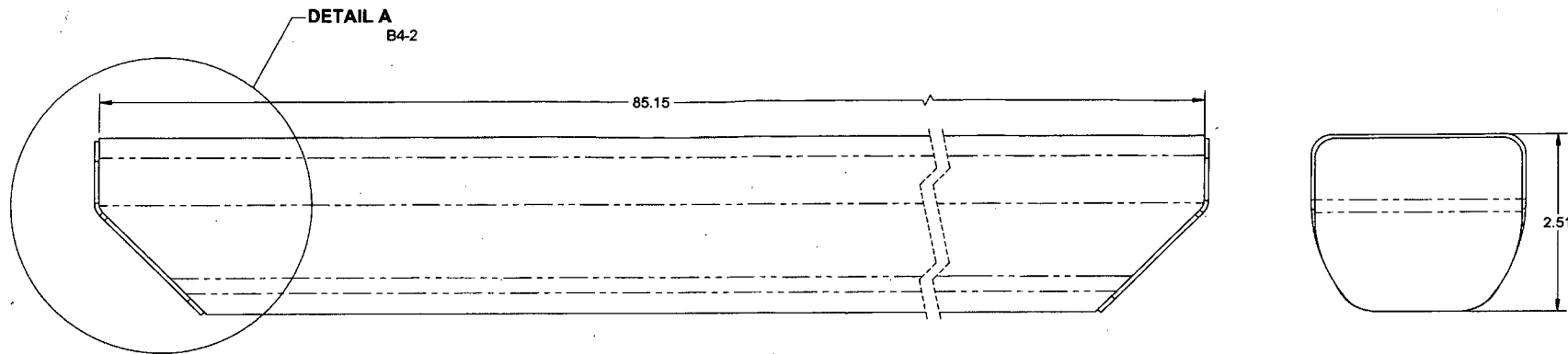
A

D

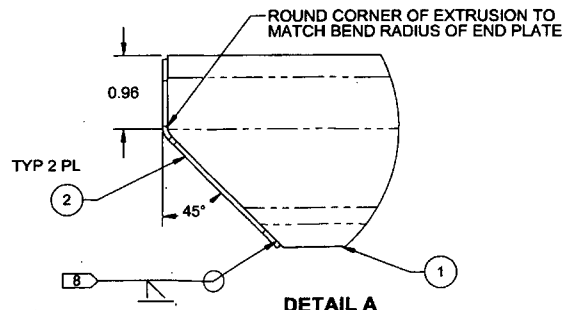
C

B

A



D3562-1 STEP ASSEMBLY



DETAIL A C7-2
TYP BOTH ENDS
SCALE 1X

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT STEP EXTRUSION
PER DART QSI 005 4.1 BEFORE ASSEMBLY
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 6.68 lbs
- 8) WELDING: ALL WELDS SHALL BE 100% VISUALLY INSPECTED
BY A QUALIFIED INSPECTOR PER DART QSI 004

ITEM No.	QTY	P/N	DESCRIPTION
	X	D3562-1	STEP ASSEMBLY
1	A/R	D2622-XXX	STEP EXTRUSION
2	2	D2734	END PLATE

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	DW	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. F
MFG. APPR.	MA	D3562	SHEET 2 OF 2
APPROVED	TH	TITLE	SCALE
DE APPR.	TH	STEP ASSEMBLY	NTS
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8 7 6 5 4 3 2 1

RELEASED
2013-06-03
WIP